



A Vision 2030 Flagship Project



## National Drought Management Authority Baringo County Drought Early Warning Bulletin for July 2021

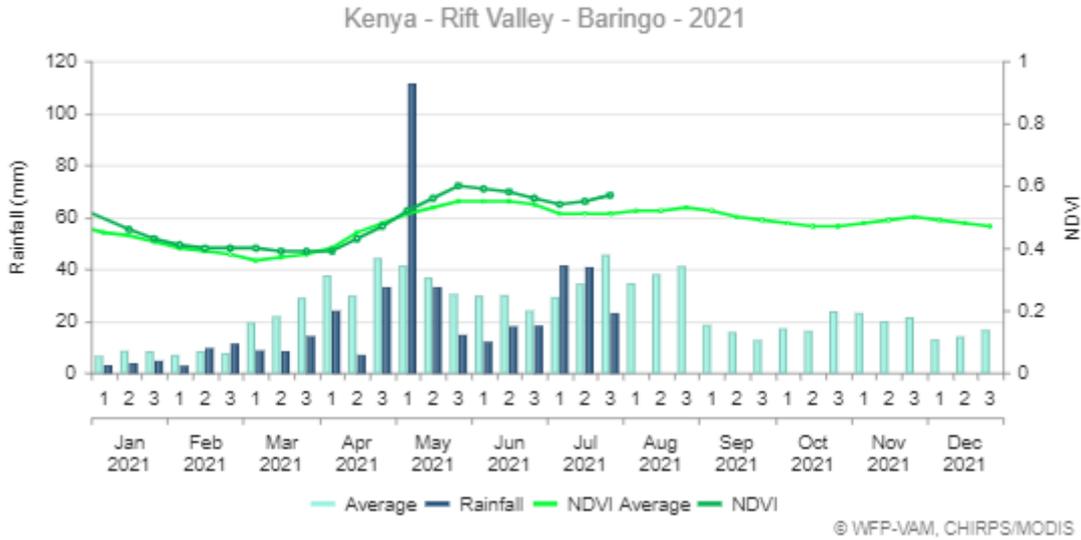
JULY EW PHASE	Early Warning Phase Classification			
	LIVELIHOOD ZONE	EW PHASE	TRENDS	
<p><b>Drought Situation &amp; EW Phase Classification</b> Drought Phase: Normal- Stable</p> <p><b>Biophysical Indicators</b></p> <ul style="list-style-type: none"> <li>The county received above normal rains during the first two dekads of July but declined in the third dekad.</li> <li>The Vegetation greenness as depicted by the VCI is above normal.</li> <li>The Water levels in most water sources are below normal at 50-60% capacity.</li> </ul> <p><b>Socio Economic Indicators (Impact Indicators)</b></p> <p><b>Production indicators:</b></p> <ul style="list-style-type: none"> <li>The forage condition is fair to good in both quality and quantity</li> <li>Livestock body condition is fair to good in all livelihood zones.</li> <li>Milk production is below the normal seasonal range across all livelihood zones.</li> <li>Some livestock death cases associated with diseases were reported</li> </ul> <p><b>Access indicators</b></p> <ul style="list-style-type: none"> <li>Terms of trade are stable and above long term means</li> <li>Distances to water sources for households are below normal seasonal ranges and on a declining trend due to off season rains.</li> </ul> <p><b>Utilization indicators:</b></p> <ul style="list-style-type: none"> <li>The number of under-five children at risk of malnutrition is stable and below the long term mean</li> <li>Copping strategy index (CSI) for households is stable and within normal seasonal range.</li> <li>The bulk of the households have acceptable food consumption score</li> </ul>	PASTORAL	NORMAL	WORSENING	
	AGRO PASTORAL	NORMAL	STABLE	
	IRRIGATED CROP	NORMAL	STABLE	
	COUNTY	NORMAL	STABLE	
	<b>Biophysical Indicators</b>	<b>Value for the month Baringo</b>	<b>LTA-Monthly Baringo</b>	<b>Normal ranges Kenya %</b>
	Average rainfall MM (%)	96%	107.8	80-120
	VCI-3month	54.31		35-50
	% Of water in the water pan	40%-50%		50-60
		<b>Production indicators</b>	<b>Value</b>	<b>Normal ranges</b>
		Livestock Migration Pattern	Unusual	Normal
		Livestock Body Condition	4-5	3-4
		Milk Production (Ltr /HH/Month)	1.3	1.46
		Livestock deaths (for drought)	5%	No death
		<b>Access Indicators</b>	<b>Value</b>	<b>Normal ranges</b>
		Terms of Trade (ToT)	58.6	>47.62
	Milk Consumption (Ltr)	1.2	≥1.38	
	Water for Households-trekking distance (km)	4.0	≥3.77	
	Crops area planted for the season(Maize)	78%	>80%	
	<b>Utilization indicators</b>	<b>Value</b>	<b>Normal ranges</b>	
	Children 6-59 months at risk of malnutrition by numbered MUAC (% at risk)	13.86%	<16.30	
	Nutrition status of malnourished children 6-59 months by family MUAC	9.5	<8.4	
	CSI	14.19	>19.0	
	FCS	46.69	>35	

<ul style="list-style-type: none"> <li>Short rains harvests</li> <li>Short dry spell</li> <li>Reduced milk yields</li> <li>Increased HH Food Stocks</li> <li>Land preparation</li> </ul>	<ul style="list-style-type: none"> <li>Planting/Weeding</li> <li>Long rains</li> <li>High Calving Rate</li> <li>Milk Yields Increase</li> </ul>	<ul style="list-style-type: none"> <li>Long rains harvests</li> <li>A long dry spell</li> <li>Land preparation</li> <li>Increased HH Food Stocks</li> <li>Kidding (Sept)</li> </ul>	<ul style="list-style-type: none"> <li>Short rains</li> <li>Planting/weeding</li> </ul>								
Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec

# 1. CLIMATIC CONDITIONS

## 1.1 Rainfall performance

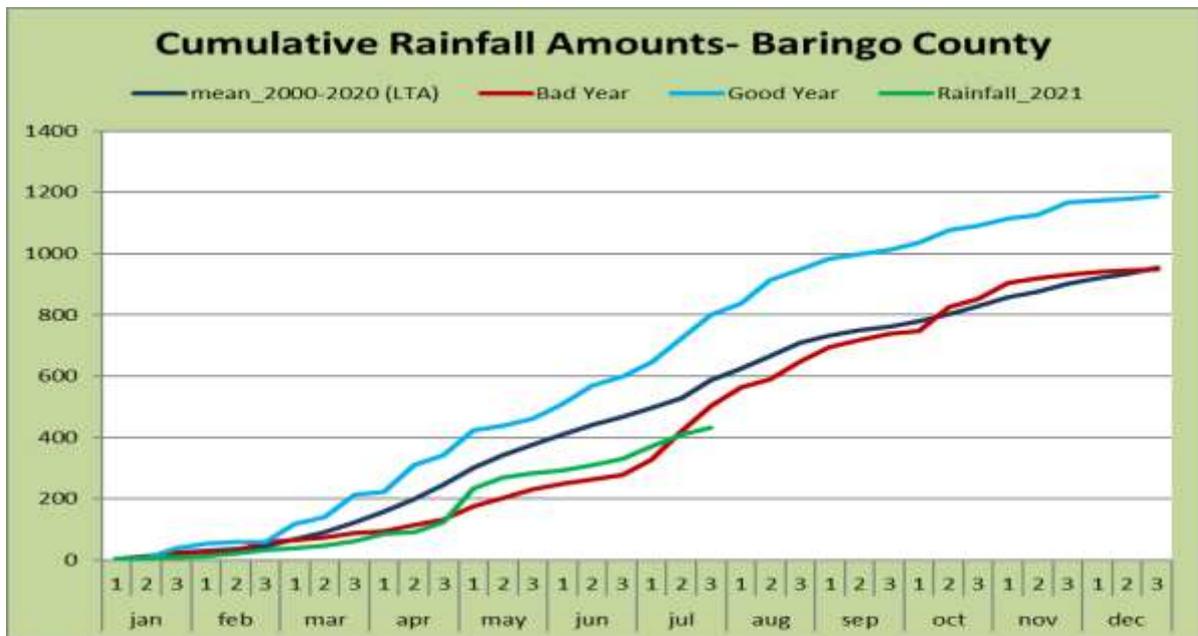
### 1.1.1 Amount of rainfall and spatial distribution



**Figure 1: Rainfall performance**

- During the month under review, off season rains were observed totalling to 96 percent of the normal rains (Figure 1). Both spatial and temporal distribution of the rains was fair across all the livelihood zones.
- The vegetation greenness according to normalized differencial vegetation index (NDVI) is slightly above normal.

### 1.1.2 Cumulative rainfall



**Figure 2: Cummulative rainfall**

Baringo county drought EWS bulletin July 2021

- The cumulative rainfall received for the month under review is below the long term means and the bad year as well as shown in Figure 2. This has been due to the poor performance of the two previous rainfall seasons.

## 2.0 IMPACTS ON VEGETATION AND WATER

### 2.1 Vegetation condition index (VCI)

The vegetation condition index (VCI) is above normal in the county (Figure 3). The VCI is currently at 54.31

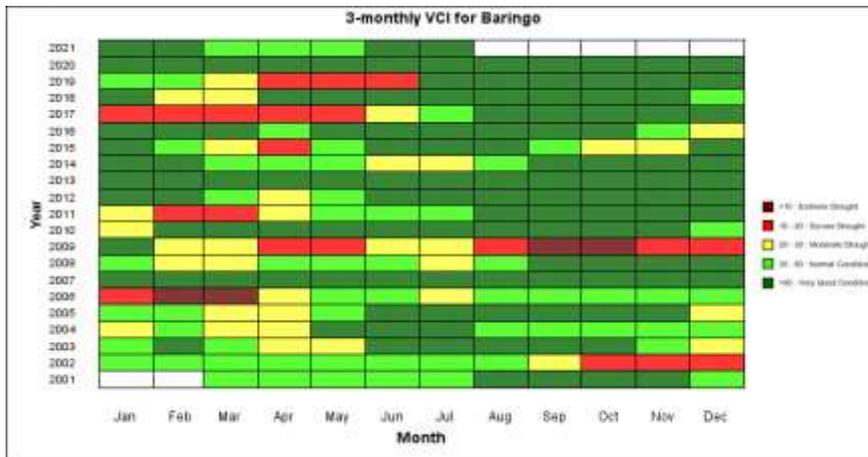


Figure 3. Vegetation Condition Index

The VCI trend for Mogotio and Baringo South sub counties has been slightly below the long term mean with a declining trend (Figure 4).

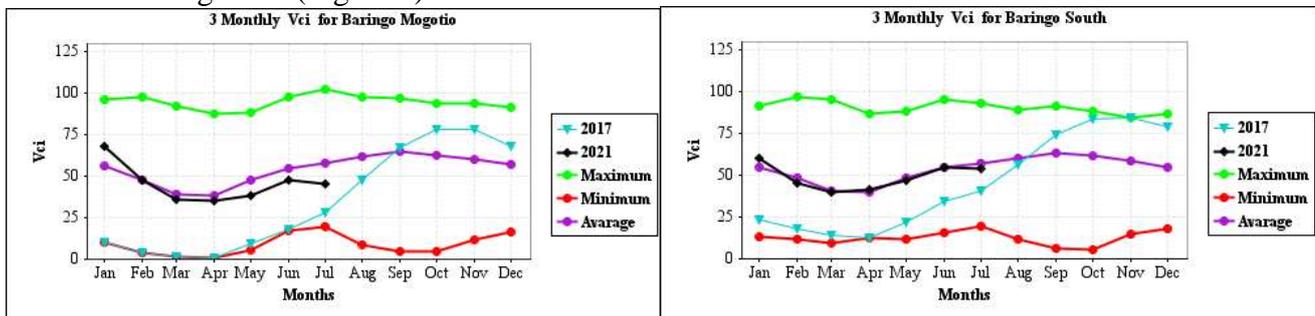


Figure 4: Vegetation condition index trend

#### 2.1.1 Field observation

##### 2.1.1.1 Pasture

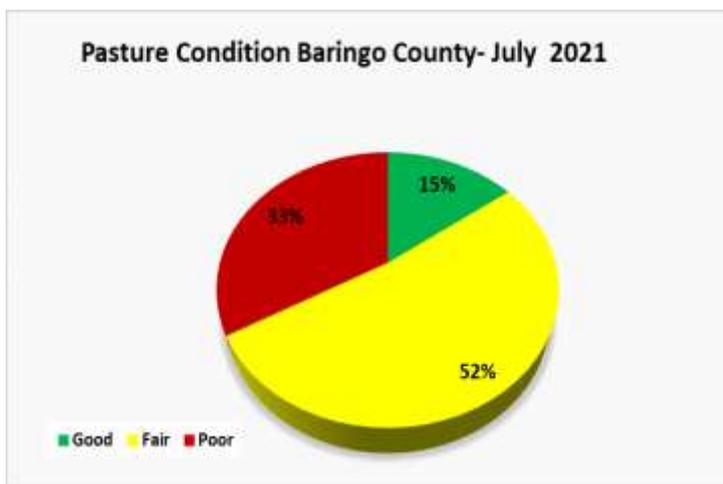


Figure 5: Pasture conditions

The pastures in pastoral and agropastoral livelihood zones are in fair to poor conditions (Figure 5). The most affected sub counties are Baringo South (Kiserian), Kinyach in Baringo North and Tiaty where the pastures are poor due to poor rainfall performance. Even though the VCI indicates above normal greenness in the pastoral areas, it should be noted that most areas in this zone are covered by invasive species particularly the prosopis species, which do not allow any undergrowth to flourish and therefore affecting forage availability. In the Irrigated livelihood zone the pastures are in fair to good

conditions. The current pastures are expected to last for more than one month in Pastoral and Agro pastoral livelihood zones and two to three months in Irrigated livelihood zone.

### 2.1.1.2 Browse

The browse condition during the month was fair both in quantity and quality in Pastoral and Agropastoral livelihood zones except in some few pockets (Figure 6) while good in the Irrigated livelihood zone. The condition is slightly below normal as compared to seasonal range at this time of the year.

The available browse is expected to last for two to three months in Pastoral and Agro pastoral livelihood zones and four months in Irrigated cropping livelihood zone.

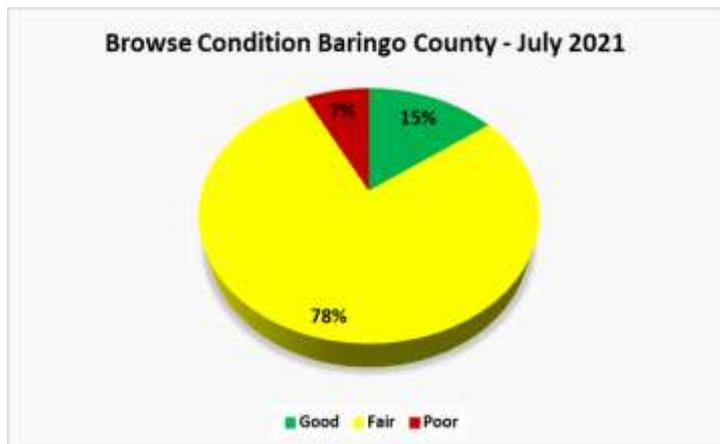
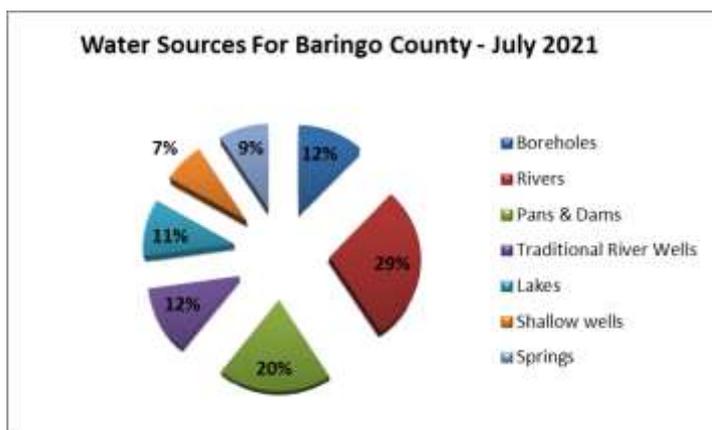


Figure 6: Browse conditions

## 2.2 Water resources

### 2.2.1 Source



The main water sources for both livestock and human consumption across all livelihood zones were rivers and water pans, (Figure 7). Most water pans and dams were at 50 to 60 percent of their full capacity. Water quality and quantity across Pastoral and Agro-pastoral livelihood zones is fair, which is not normal at this time of the year. The current open water sources are expected to last for two month in Pastoral and Agro pastoral livelihood zones and three months in Irrigated livelihood zone.

Figure 7: State of water sources

### 2.2.2 Household access and Utilization

The average household trekking distance to water sources was four kilometres, which was a decline compared to the previous month at five kilometres (Figure 8). The distances are above the long term average (LTA) by 14 percent. Irrigated cropping livelihood zone recorded the least trekking distance of one kilometres while Pastoral livelihood zone recorded the highest average of five kilometres. The decrease in distances is attributed to rains received during the month.

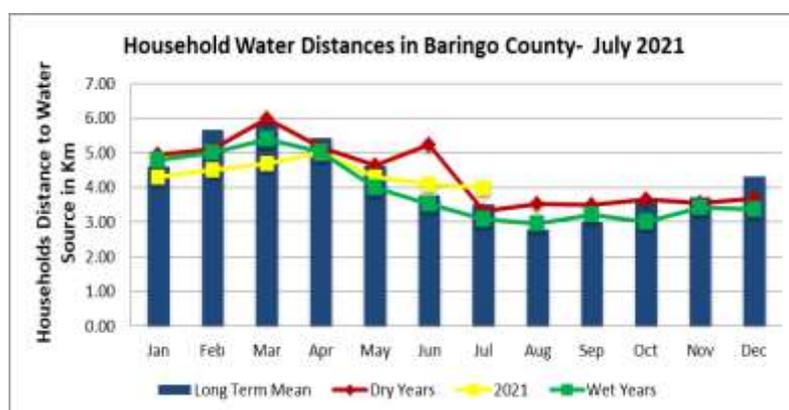
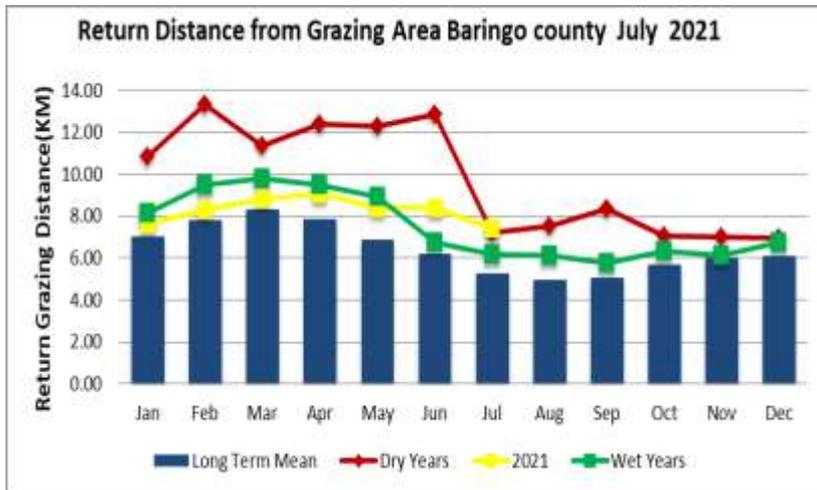


Figure 8: Water access

### 2.2.3 Livestock access



**Figure 9: Grazing distances**

The average return distance for livestock from grazing fields was at 7.4km, which was a decrease of 12 percent as compared to the previous month (Figure 9). The current distances are above the long term mean by 42 percent. The Pastoral livelihood zone recorded the longest average distance of 8.8 km while Irrigated livelihood zone recorded the shortest average distance of two kilometres. The decline in return distances are attributed to the ongoing pasture regeneration in the county as a result of the off season rains.

### 3.0 PRODUCTION INDICATORS

#### 3.1 Livestock Production

##### 3.1.1 Livestock Body Condition

The livestock body condition is mostly moderate in all livelihood zones other than the Pastoral areas for the cattle species (Figure 10). This has been occasioned by regeneration of pasture, browse and improved water availability across the livelihood zones. In the Pastoral livelihood zone, the livestock body condition is poor to fair for cattle due to poor forage conditions. The body condition is likely to improve if the off season rains performs well.

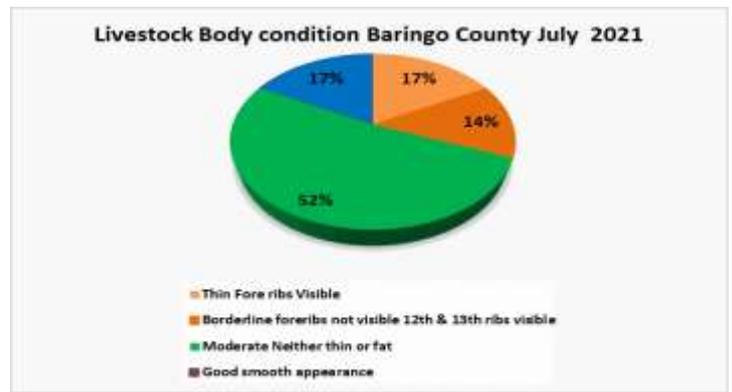


Figure 10: Livestock Body Condition

##### 3.1.2 Livestock Diseases

Some cases of livestock diseases have been reported and include pestes des petits ruminants (PPR), Contagious caprine pleuropneumonia (CCPP), East coast fever, foot and mouth (FMD) and lumpy skin disease across all the livelihood zones. Vaccination against CCPP is ongoing across the county. The NDMA surveillance system has also picked up some cases of livestock deaths of 5-7 percent of animals owned within the sampled households involving cattle that can be attributed to poor feeding and livestock diseases in the pastoral livelihood zone.

##### 3.1.3 Milk Production

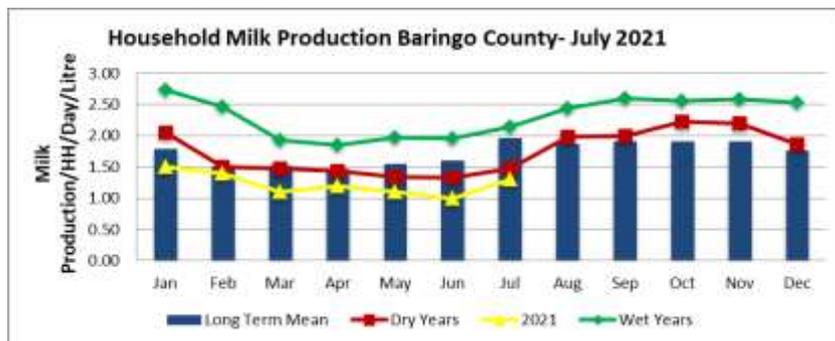


Figure 11: Milk production

The average milk produced per household per day during the month increased by 30 percent as compared to the previous month at 1.3litres (Figure 11).The milk was mainly from cattle and goats. The increase has been contributed by improving livestock body conditions. The current milk production is below LTAs by 34 percent.

### 3.2 Rain fed crop production

#### 3.2.1 Stage and Condition of food Crops

- The poor performance of the rainfall season led to less than 75 percent of the acreage being put under cultivation for various crops compared to the long term means. About 50 percent of crops in the county mainly maize has failed as a result of moisture stress and therefore the expected maize yield will be about 45 percent of the LTA of the long rains crop.
- Crop pests of fall army worms have attacked at least 20 percent of the crop in the field, the main sub counties affected being Eldama Ravine and Baringo Central.

## 4.0.0 MARKET PERFORMANCE

### 4.1.0 Livestock marketing

#### 4.1.1 Cattle prices.

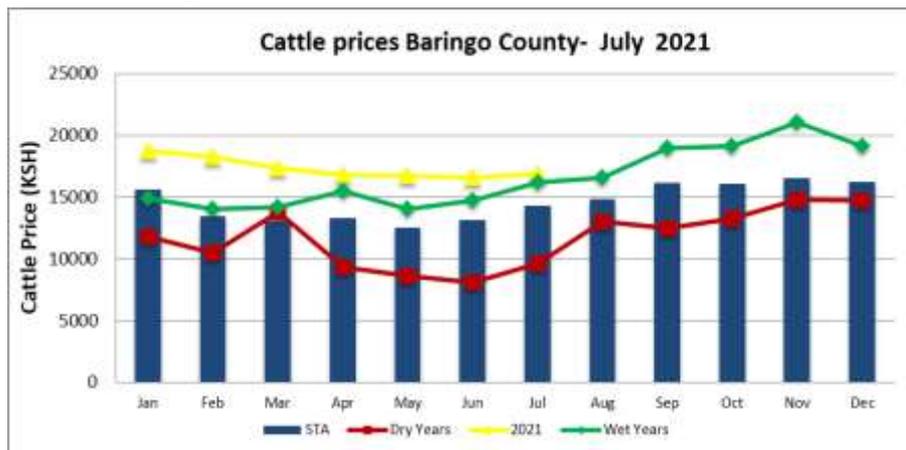


Figure 12: Cattle price

The current average price for medium-sized cattle was Ksh. 16,854. The prices are on an improving trend compared to the previous month (Figure 12). The price was above the short-term average by 18 percent. Irrigated livelihood zone posted the highest prices of Ksh.27,667 while Pastoral livelihood zone recorded the least average price of Ksh.14,117. The stability in prices was as a result of slight improvement in livestock body condition.

#### 4.1.2 Goat Prices.

The average price of a medium sized goat was stable at Ksh.2,675, as compared to the previous month at Ksh. 2,645 (Figure 13). The price was above the short term average (STA) by three percent. The prices were highest in Fishing livelihood zone at Ksh. 3,783 and lowest in agro pastoral livelihood zone at Ksh.1,900. The stability in price is as a result of resumption of market operations in the Pastoral livelihood zone mostly in Tiaty areas.

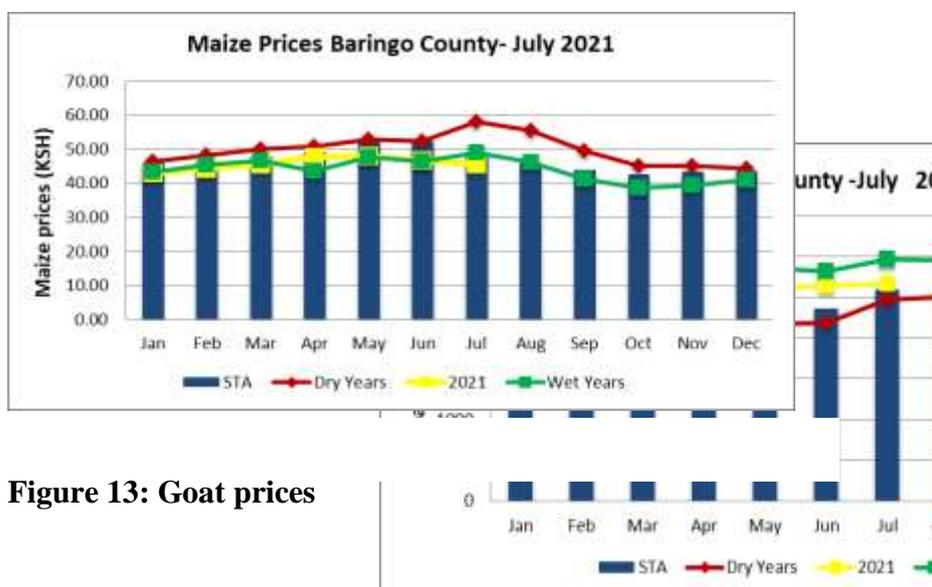


Figure 13: Goat prices

### 4.2.0. Crop prices

#### 4.2.1 Maize

The current maize prices increased slightly compared to the previous month at Ksh 45.6/kg (Figure 14). The current prices are below the long-term average at this time of the year by seven percent. The stability in maize prices can be attributed to availability of maize stocks at the household level in the mixed farming livelihood zone especially in Eldama Ravine sub county. Pastoral livelihood zone recorded the highest average price of Ksh.49 per kg while irrigated livelihood zone recorded the lowest at Ksh.38 per kg.

Figure 14: Maize prices

#### 4.2.2 Posho (Maize meal)

The average household posho price was at Ksh 52.2/kg compared to the previous month at Ksh 55.4 (Figure 15). The price was below the short-term average by seven percent. The pastoral livelihood zone recorded the highest average price of Ksh. 57 while the irrigated cropping zone had the least average price of Ksh. 42.

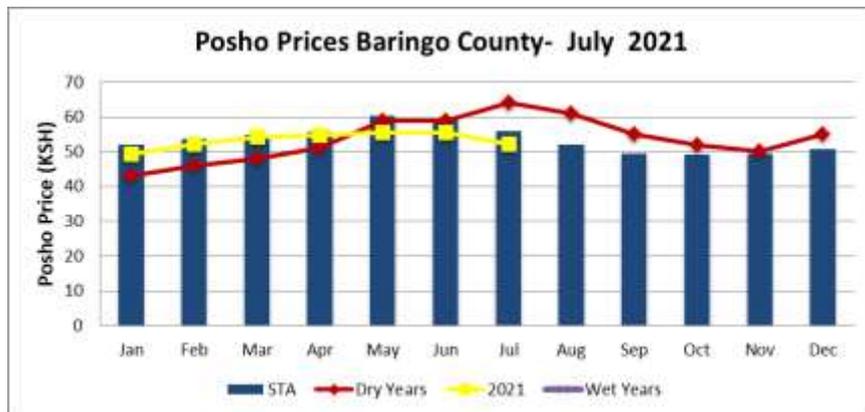


Figure 15: Posho prices

#### 4.2.3 Beans Prices

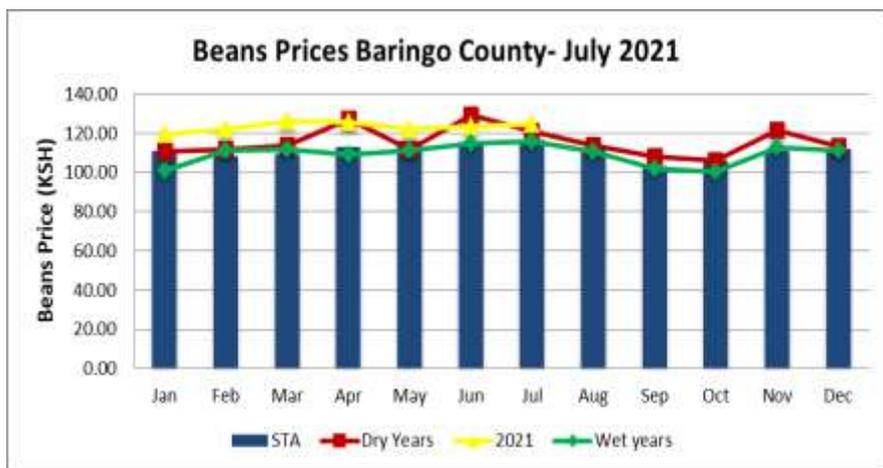


Figure 16: Beans prices

The average price per kilogram of beans is stable compared to the previous month at Kshs.124 (Figure 16). The current prices are above the short-term average by seven percent.

The pastoral livelihood zone recorded the highest average prices of Ksh.129 while the Irrigated livelihood zone recorded the least prices of Ksh.100. The stability in prices was attributed to completion of the planting thus less demand for the commodity.

#### 4.3 Terms of Trade

The terms of trade were at 56.7 an increase of five percent in comparison to the previous month whereby a sale of one goat was able to fetch 54.1 kgs of maize (Figure 17). This has been attributed to relatively stable maize prices and slight increase in goat prices. The current terms of trade are better in comparison to the long-term average. Irrigated cropping livelihood zone had the highest terms of trade of 80.2 while Agro pastoral livelihood zone had the least at 44.7

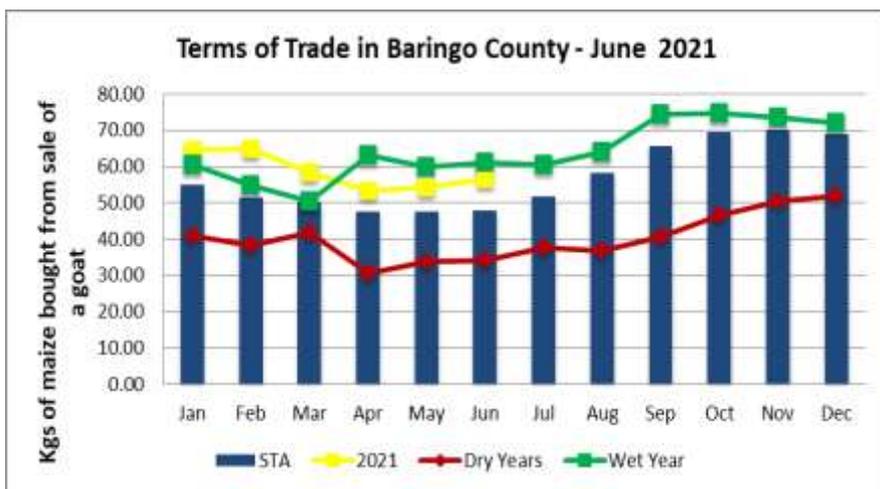


Figure 17: Terms of trade

## 5.0 FOOD CONSUMPTION AND NUTRITION STATUS

### 5.1 Milk Consumption

The average milk consumption per household per day was at 1.1 litre, which was below the long term average by 28 percent (Figure 18). The milk consumption was highest in the agro pastoral livelihood zone at two litres and lowest in fishing livelihood zone where there was no milk consumed by households. The amount consumed was below the long-term average partly due to reduced milk production in the irrigated and fishing livelihood zones.

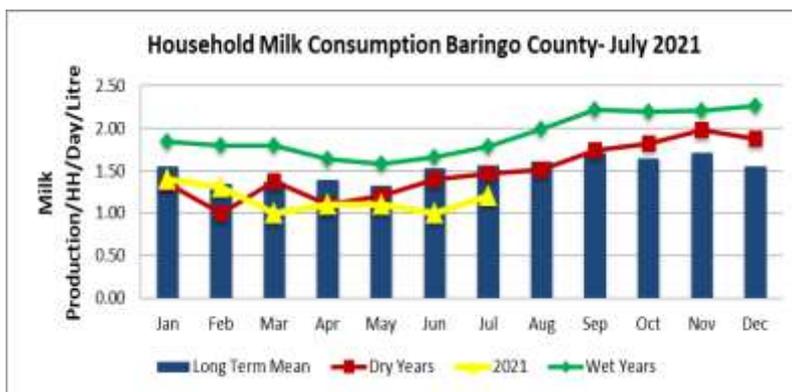


Figure 18: Milk consumption

### 5.2 Food Consumption Score (FCS)

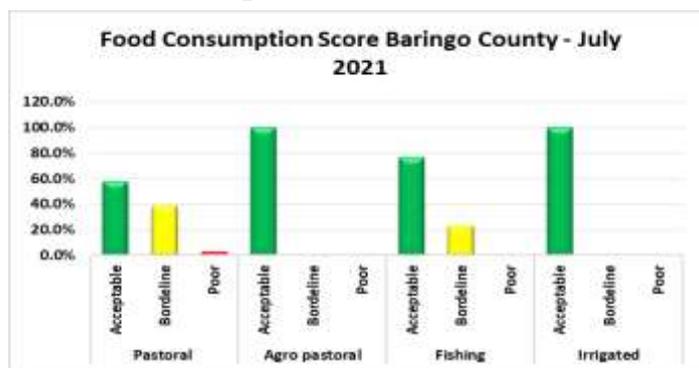


Figure 19: Food consumption score

Generally, the county had an acceptable food consumption score of 46 which was a minimal drop as compared to 48 for the previous month. A proportion of two, 29 and 69 percent of the households across the livelihood zones have poor, borderline and acceptable food consumption scores respectively. The Pastoral livelihood zone had a significant proportion of households without acceptable food consumption score and was consistent for the last four months (Figure 19). This was contributed by inadequate access to nutritious food stuffs due to the existing low purchasing power of the households among other factors. In the Irrigated cropping and Agro pastoral livelihood zones, households have acceptable food consumption score as a result of availability of adequate cereal stocks carried over from the long rains season of 2020. Income emanating from sale of seed maize in Irrigated cropping zone also contributed in maintaining acceptable food consumption score.

### 5.3. Health and Nutrition Status

#### 5.3.1 Nutrition status

The proportion of children sampled who are at the risk of malnutrition during the month was 13.86 percent. This was a increase of five percent as compared to the previous month. The current proportion is below the LTA by two percent and this is being contributed by the nutrition interventions by the ministry of health especially in the pastoral areas.

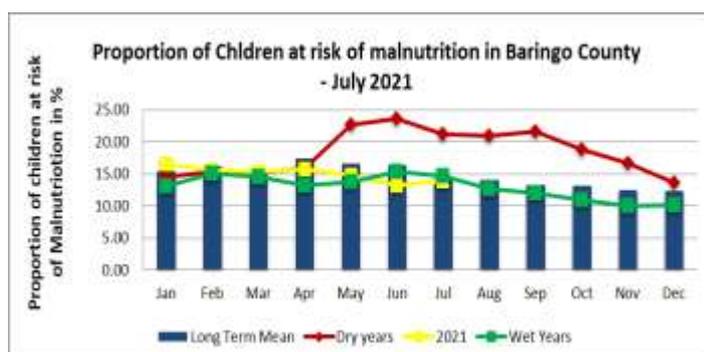
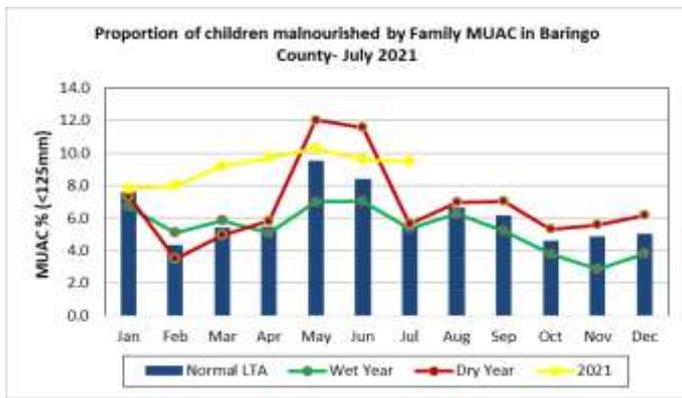


Figure 20: proportion of children at risk of malnutrition



**Figure 21: Family MUAC**

By family MUAC, the proportion of children malnourished was 9.5 percent; this was a marginal decline as compared to the previous month at 9.6 percent. (Figure 21).

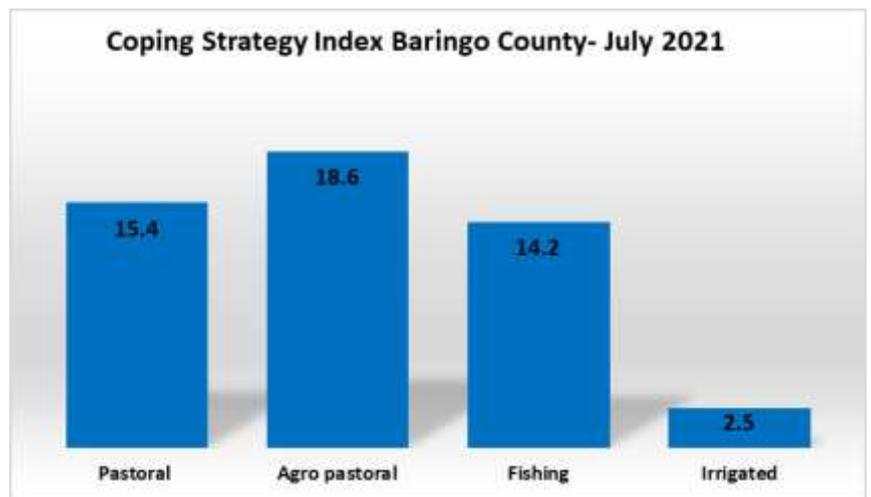
### 5.3.2 Health

- During the reporting period, the illnesses that were reported were malaria and diarrhoea across livelihood zones. The diarrhoea cases were due to use of water from open sources and poor hygiene practices at household level. Water quality is poor mostly in Baringo South and Tiaty sub counties.
- Sensitization campaigns and Vaccination against COVID 19 pandemic are ongoing across the county led by the County health teams.

## 5.4 Coping strategies

### 5.4.1 Coping Strategy Index

The current average coping strategy index was at 14.19 which was an increase compared to the previous month at 13.34. Households in Agro pastoral livelihood zone employed more coping strategies at 18.6 followed by Pastoral livelihood zone at 15.4 while the Irrigated cropping zone employed the least coping mechanisms at 2.5 (Figure 22). Overall, households in Agropastoral livelihood zone have recorded relatively higher CSI values for the past three months followed by those in Pastoral livelihood zone.



**Figure 22: Coping strategy index**

## **6.0 CURRENT INTERVENTION MEASURES.**

### **6.1 Non-food interventions**

#### **Agriculture Sector**

- Provision of certified affruitation seedlings in Baringo north, south and central, Mogotio, Eldama Ravine and Tiaty sub counties.
- Purchase by household orange sweet potato vines Baringo north, south and central, Mogotio, EldamaRavine and Tiaty sub counties.

#### **Livestock sector**

- Provision of Galla bucks and Sahiwal bulls to groups targeting 800 households across the county
- Provision of pasture seeds (2,500 kgs) and pasture harvesting tools in Baringo south, central, north, Tiaty and Mogotio targeting 200 households.
- Vaccination against CCPP, PPR and diseases surveillance in Baringo north, central and south targeting 2,000 households

#### **Water sector**

- Rehabilitation of brocken boreholes in Tiaty, Baringo South and Baringo North sub counties.

#### **Health and Nutrition**

- A SMART survey was done in Tiaty sub county with the objective of determining the nutrition status of children aged 6- 59 months old and Women of reproductive age 15-49 Years.
- Vitamin A and Zinc supplementation was done across all health fascilities in the county. Mass vaccination against measles and reubella was also done.

## **7.0 EMERGING ISSUES**

### **7.1 Insecurity/Conflict/Human Displacement**

#### **7.2 Migration**

- Minimal livestock migrations were reported in the county. Livestock markets were reopened in Tiaty sub county after having been closed for the past six months due to insecurity. This is expected to improve purchasing power of pastoral households due to livestock sales.

#### **7.3 Food security prognosis**

- Crop production is expected to be lower than normal due to poor rainfall distribution as at least 50 percent of the crop has failed following the cessation of the long rains season at the time when the crops were still at a tender age that required watering.
- The off season rains received during the month under review are expected to stimulate pasture and browse regeneration and hence improve forage availability across the county, leading to marginal improvement in milk production.
- Milk production and consumption is expected to improve marginally but remain below long term means. This is due to the expected forage improvement due to the impact of the off season rains.
- Following the reopening of livestock markets in Tiaty sub county, food access is expected to improve as the purchasing power of the pastoral households is expected to improve as a result of livestock sales.
- In the pastoral areas, cases of malnutrition will continue to persist due to poor dietary diversity as households will find it difficult to access nutritious food stuffs from the markets due to the existing low purchasing power, poor market functionality.
- The food consumption score will likely improve in the next one month due to improvement in household milk consumption while application of coping strategies are expected to be less compared to the current month under review.

## **8.0 RECOMMENDATIONS**

### **8.1.0 Proposed Recommendations**

#### **8.1.1. Water Sector**

- Provision of water treatment drugs at water sources and household level to minimise outbreak of water borne diseases

#### **8.1.2. Nutrition and Health**

- Prepositioning of supplies for the management of malnutrition cases should be undertaken especially in the pastoral areas that are witnessing rising cases of malnutrition.
- Support of Intergrated outreaches where community travel long distance to get health services
- Improve resilience of the vulnerable groups through nutrition education to care givers
- Continuous health, Nutrition surveillance.
- Social behaviour changes and communication for improved dietary practices among children and women of reproductive health-
- Training of care givers in the sentinel sites on how to use family MUAC tapes for monitoring of nutrition status of children in line with COVID-19 protocols.

#### **8.1.3. Livestock and Veterinary sector**

- Vaccination against, CCPP, LSD and PPR should be enhanced
- Establishment of strategic livestock feed reserves is recommended mostly in the pastoral and agro pastoral areas.
- Sustained security surveillance in the county with the aim of minimizing conflict that is resulting from livestock migration among pastoral communities
- Farmers to be educated on the type of animals that can survive during drought season in while continuous extension services among livestock farmers are needed
- Provision of pasture seeds for rangeland reseeding.
- Upgrading and improvement of local indigenous breeds of cattle, sheep and goats

#### **8.1.4. Agriculture Sector**

- Inputs provision (Seeds, Kitchen Garden Materials, Fertilizers) including capacity building on post-harvest and safe use of chemicals
- Value addition of produce cereals (Maize, Sorghum and Millet) through milling and fortification of flour and Market linkages
- Enhance asset creation for households especially Farm ponds and water pans for food production especially Kitchen Gardening
- Enhance irrigated agriculture by conducting soil analysis and crops suitability surveys in all irrigation schemes and canaling.
- Support household with water harvesting skills which can be used for small scale food production
- Enhance crop pest control against fall army worms which continues to ravage farmer's crops.